"Light Horse Pat" Harrison and an Open Conference

Following Recent Tilt With Senator Lodge, Mississippian Will Introduce Resolution to Prevent Disarmament Secrecy

By Mark Sullivan

SENATOR PAT HARRISON, of Mississippi, is the Democrat who is going to lead the fight, so far as his party is concerned, for public sessions of the coming conference for the limitation of armaments. Senator Harrison is the light-horse cavalry of the Democrats in the Senate. He plays Stonewall Jackson to Senator Underwood's Robert E. Lee.

In a rather unusually serious Senate there is nothing more entertaining than the smiling and ingratiating urbanity with which Senator Harrison rises at every opportunity to make a guerilla raid across the aisle into the Republican lines and make a little ammunition to store away in the Congressional Record against the time next summer when his party will be fighting to regain control of Congress. Once in a while something the Senate is doing reaches down to some deep conviction in Senator Harrison's breast. On such an occasion he will fight with as much earnestness as a Mississippi bearcat. But for the most part he waits for a time when Senator Lodge or some other Republican leader has his back to the wall on a party issue, or something that can be made a party issue.

Then Senator Harrison unfolds the length of his lean figure from the depths of his Senate chair and, with a smile that is like a rippling wave on his agreeable countenance, proceeds to throw knives that almost trim the whiskers of his pinioned victim. He does it all with a gentle irony, with a mock sympathy and an elaborateness of consideration for his opponent, such that the gallery has come to smile in pleased expectation whenever the Mississippi Senator arises.

Of course Senator Lodge might have made a safe escape from Senator Harrison's making a Democratic issue of publicity for the coming conference, by saying that he could not tell yet just what degree of openness it would be possible to achieve, he could undertake to guarantee that it would be more open than Mr. Wilson's Paris conference. But Senator Lodge is not the kind of a man who makes that kind of answer. If he were, Senator Harrison would not seek so many occasions to have fun with him. Senator Lodge made an elaborate and serious reply, and to a large extent a good reply. He said in the first place that the method of procedure is for the conference itself to determine after it assembles, and that it isn't courteous for the United States Senate to try to forestall it. In the second place, he said that a Senate appropriation bill, providing for the expenses of the conference, ought to be unconditional, and that Senator Harrison's amendment, calling for secrecy, was bad form or worse.

FINALLY, Senator Lodge made a reply that was specious. It was the sort of argument that Senator Harrison in his slangy way might effectively have called "old stuff." It was the familiar debating device of stating, as your opponent's case, what really is not your opponent's case at all, and then triumphing over the man of straw. Senator Lodge said:

"To say that the conference shall never meet in committee; that they shall never hold conversations; that one man or one delegation shall not talk with another man or another delegation; to say that some agreement cannot be reached without being printed verbatim in the newspapers, is, of course, to propose a system which everybody knows is impracticable."

Now, Senator Harrison is not saying that the delegates to the disarmament conference "shall never met in committee.' He is not saying that "they shall never hold conversations." He is not saying that "one man shall not talk with another man." He is not saying any of the things that Senator Lodge says he is saying. Senator Harrison is not saying these things and nobody else is saying these things. Nobody is demanding that the disarmament conferenc shall be any more open for example than the United States Senate; and in the United States Senate all the things that Senator Lodge pictures as necessary are done every day. They are properly done and inevitably done.

If the disarmament conference should decide to have its sessions as open as are those of the United States Senate, should adopt the Senate procedure as their procedure, then that would satisfy, and more than satisfy, everybody who is arguing for publicity, and still the conference would have, as the Senate has, executive sessions which are secret, committee meetings which are secret, caucuses of half or more of the body which are secret, agreements between individual members which are secret. All these things happen in the United States Senate. They happen in every other body where men come together. They are proper and desirable. If any one denies that they are proper and desirable, he must at least admit they are unpreventable.

There are some who demand that the sessions of the disarmament conference shall be as open as the sessions of the United States Senate. There are a few who demand that they shall be even more open than the Senate, for there are some inside the Senate and outside of it who would demand that the Senate should never have any executive sessions and who would demand that party caucuses should be public.

BUT the great mass of the demand for open sessions of the disarmament conference comes from persons who are entirely reasonable. They appreciate that there must be a cautious feeling of the way on the part of the delegations to the conference. They realize that some points of view must be put forth tentatively with the expectation of changing them later. They realize that some decisions must be tentative, and that othr decisions taken from day to day will be contingent on larger decisions to be taken later. They realize that as respects all these things there must be abundant opportunity for informal negotiation on the part of the conference as a whole and on the part of various groups within the conference.

But those who concede all these things are disturbed at something in the atmosphere of Washington which seems to partend resistance to the demand for even reasonable openness in the conduct of the conference. This atmosphere on the part of Washington probably proceeds from a sense of courtesy toward the other governments more than anything else. The diplomats from other countries by their traditions, are not as hospitable to open sessions as the American point of view is. It is easy to see how official America might hesitate to seem to force upon other countries a degree of publicity not in accord with their traditions. If there is time yet, and if the proper initiative and leadership for such an enterprise can be found, there should be an organized effort to build up a demand for open sessions in Great Britain, Japan, France and Italy, as great as is the demand in America. Innovations are always met with reluctance by statesmen, and the degree of publicity which ought to attend the sessions of the disarmament conference will only be achieved by public pressure.

In the Senate discussion of the subject Senator Harrison withdrew his proposed amendment. The substance of the amendment was moderate and was phrased in reasonable terms. It merely said: "That the delegates representing the government of the United States use every effort and exert their influence for open sessions of the conference." The reason Senator Harrison withdrew it was that as an amendment to an appropriation bill, it was a sort of thing which has come to be frowned upon. Later on, after the recess of Congress, Senator Harrison will introduce his amendment again in the form of a resolution of the Senate standing by itself. If he does, it may well pass. He will have the aid of some important Republicans.

HARNESSING SUN RAYS TO A STOVE

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to the greater thickness of the atmosphere through which radiation has to pass.

IT is easy to see what possibilities lie in sun power machinery. The quantity of solar heat which arrives at the outer surface of our atmosphere has been figured by Dr. Abbott of the Smithsonian at 7.12 British thermal units per minute, for every square foot of surface. A British thermal unit, or b. t. u., as it is commonly expressed, is the amount of heat needed to raise one pound of water one degree Fahrenheit in temperature.

Perhaps the most remarkable thing about solar radiation is that it passes through 93,000,000 miles of space between the sun and earth the temperature of which space is about 263 degrees below zero Centigrade, which is even colder on the Fahrenheit scales, commonly used in this country. Only 60 per cent of the sun's radiation produces any effect on the eye, and it is not until the radiant energy hits some material body that it is converted into heat. The best body for causing such conversion is one painted dead black. And curiously, again, the absorption, of solar energy by the atmosphere is greater in the summer than in the winter, by 20 per cent. This is supposed to be due to the fact that there is a greater amount of water vapor in the air in the summer months. The rule is that the greater the humidity of the atmosphere, the greater is the amount of heat stopped by it, thus preventing the heat from reaching the earth.

Although the theoretical power value of the heat reaching the surface of the earth is not less than 5,000 horsepower per acre, it must not be thought that anywhere near that power can be obtained or converted into mechanical power which we can control b, any present methods. Even the heat from coal is poorly converted, under the best mechanical arrangements which we have today.

For example, the heating value of good coal is about 14,500 b. t. u.'s per pound, which is equivalent to 12,760 horsepower hours per ton. The best results now obtained by means of a boiler and steam engine deliver only about 1,470 horsepower hours at the place where it is usable. With an internal combustion engine, run by gas, the heat efficiency is about 25 per cent, and in the case of Diesel oil engines, which run under very high compressions, a heat efficiency of 31 per cent has been obtained. This is the most efficient form of engine so far devised. It is largely used in certain kinds of stationary power plants and in ships. The German submarines, for example, were driven on the surface by Diesel engines and the cruising radius was thus made larger, for the same amount of fuel that it would have been had the boats used any other known form of power plant.

IN turning the sun's heat into steam, by direct process, the efficiency by methods so far used has been 40.1 per cent, compared to about 75 per cent which can be obtained with a coal fired boiler. Making coal fire boilers, however, is an art now well understood, and making sun boilers is a relatively new art which may be improved on when the demand comes, and the cost of coal soars out of reach of manufacturers. It is known now that the heating value of two and one-half acres of bright sunshine for one hour is equivalent in power to a ton of coal. This was discovered in Egypt. In Europe, it was figured that the wood fuel produced on an acre of land in a year, which amounts to bottling up the sunshine in a form which is readily usable by man, was equivalent to at least one ton of coal. It appears that plants store up, as chemical energy, between 1 and 2 per cent of the solar radiation which shines on their leaves, which would indicate that old Mother Nature herself was not greatly interested in the efficiency of her plant life, as a conservator of the sun's power.

Everybody knows the story that Archimedes set the Roman fleet under Marcellus on fire, by the use of the sun's rays. This was in the year 214 B. C. Archimedes used mirrors, erected on the shore, which threw such a concentrated heat on the enemy's ships that those which did not catch fire had to put out from the shore to get beyond the intolerable concentration of sun rays.

Skeptics who doubted the plausibility of such a war weapon were convinced, when in 1747 a French naturalist, Buffon, made experiments with a burning mirror, constructed out of 360 small plane mirrors, set on a frame so that all could concentrate their reflected rays to a focus at any desired distance. Buffon then took the skeptics out in a field, where he set fire to some tarry wood about 70 yards from the mirror. To offer more convincing testimony, he took forty-five of the mirrors and melted some metallic tin in a pot placed twenty feet away.

Not to be outdone, a German mechanic, a few years later, made a parabolic mirror, about nine feet in diameter, and constructed it so accurately that the rays gathered in over this area were concentrated in a space about one-half an inch square. With one of these mirrors, on a bright day, it was the inventor's favorite trick to reduce metal coins to molten matter almost instantly.

JOHN ERRICSON, who acquired fame through the invention of the Monitor, in the civil war, and who may be said to have done more for iron and steel ships than any other man, made a number of experiments on sun engines. He spent about $100,000 experimenting and then wrote: "Though the heat is obtained for nothing, so expensive, costly and complex is the mechanism for the concentration apparatus that solar steam is many times more expensive than steam produced by burning coal." That was in 1878. Erricson took the engine he had designed to run by sun power and turned it into a gas engine to run on gas produced from coal, not from gasoline, as the modern automobile engine is operated. He made many times his costs of experiments from the profits on the gas engine.

Science discovered that the old miracle of "bringing fire from Heaven" was simply utilizing sun power, through mirrors. When the sacred fire that burned the temple of Vesta, the Goddess of the Hearth, in the old days of the glory of Rome, became extinct, due to failure of the vestal virgins to keep up the fuel supply, the ancient priests kindled the flame again by placing a piece of dry wood in the